

## REMARKS

Claims 1-8 are pending in this application. No claims have been added, cancelled or amended.

### Claim 1

Claim 1 stands rejected under 35 U.S.C. § 102 as being anticipated by Japanese Patent JP 06-247899 issued to Yasuo et al ("Yasuo"). The Examiner states that "Yasuo discloses method of continuous esterification of terephthalic acid, wherein density of slurry . . . [is] measured by a densitometer . . . in order to detect and controlling . . . the molar ratio of ethylene glycol to terephthalic acid." Office action, page 2, part 1. However, the Examiner fails to indicate where Yasuo discloses that "closed-loop control of the charging rate of the solid raw material occurs" as required by claim 1. Indeed, the Examiner concedes that Yasuo does "not explicitly discloses automated closed-loop control process." Office action, page 3, part 2. Moreover, rather than controlling the charging rate of the solid raw material, Yasuo repeatedly indicates that it is the charging rate of the liquid raw material that is controlled. For example, "[a]djustment of accommodation of the speed of supply of the ethylene glycol" and "adjusting the amount of supply of EG" are each described at paragraph 15. The use of a "flow meter" to detect "the amount of supply of EG" and "the method of adjusting the speed of supply of EG" are also disclosed in paragraphs 15 and 16. Yasuo does not teach the closed-loop control of the charging rate of the solid raw material, as required by claim 1. Accordingly, Yasuo does not teach or suggest the subject matter of claim 1.

Claim 1 also stands rejected under 35 U.S.C. § 103(a) as being obvious over Yasuo, in view of U.S. Patent 4,327,759 issued to Millis ("Millis").

A *prima facie* case of obviousness has not been established because the Examiner fails to indicate where closed-loop control of the charging rate of the solid raw material is taught or suggested by either reference. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 82 USPQ2d at 1396. The Examiner has failed to meet this standard.

The deficiencies of Yasuo are set forth above. For the same and similar reasons indicated above, Yasuo fails to teach or suggest the closed-loop control of the charging rate of the solid raw material, as required by claim 1. Indeed, contrary to controlling the charging rate

of the solid raw material, Yasuo discloses "it is usually difficult to carry out measuring supply of the fine-particles-like TPA with high degree of accuracy." Paragraph 3.

Millis fails to cure the deficiencies of Yasuo. Specifically, Millis fails to teach or suggest closed-loop control of the charging rate of the solid raw material. Rather, Millis discloses that "[a] liquid control circuit . . . generates a feed-back signal for controlling the actual rate of flow of liquid material into the closed circuit . . . ." Abstract.

As noted in the specification, "[t]he precise determination of the amount of solid starting materials, primarily of dicarboxylic acid, occurs in contrast in the previously known methods by weighing the powder raw material before addition to the process." Page 2, 2<sup>nd</sup> full paragraph. The problems associated weighing these compounds are described "[w]hen a weighing machine is used, temporal changes in the measurements of the solid material mass flow occur. This so-called drift in the measured mass flow is caused by a gradual movement of the zero-point in weighing due to increasing deposits on the measurement instrument which are mainly caused by a slight residual moisture content in the solid and cannot be avoided in practice." Page 2, 3<sup>rd</sup> full paragraph. Claim 1 provides the advantage that "the determination of the consumption of the solid raw material can occur without the use of a weighing machine." Page 6, 6<sup>th</sup> full paragraph.

Furthermore, controlling the charging rate of the solid raw material according to claim 1 provides the further advantage that in the event of a system malfunction, a solidification of the paste is prevented. For example, if the supply of the liquid raw material is interrupted or discontinued, the paste density increases. In this case, claim 1 permits the supply of solid raw material to be down-regulated up to a complete stop, to avoid a solidification of the paste due to excessive feeding. In contrast, in the references cited by the examiner, the system would attempt to increase the supply of the liquid raw material, whereas the solid raw material would continue to be supplied. Since the liquid supply is discontinued, however, the paste would solidify because of the continuing feeding of the solid raw material. These advantages are not taught or suggested by the prior art, and accordingly, claim 1 is not obvious over the cited references.

Accordingly, independent claim 1 is allowable. Reconsideration and allowance of claim 1 are respectfully requested.

### **Claims 2-8**

Claims 2-8 stand rejected as being anticipated by Yasuo, and as being obvious over Yasuo in view of Millis. Claims 2-8 each depend from allowable claim 1 and accordingly are allowable for at least the reasons set forth above. Claims 2-8 may also contain additional patentable subject matter for reasons not discussed herein.

### **CONCLUSION**

Applicants respectfully request withdrawal of the rejections and allowance of the claims. The Examiner is invited to contact the undersigned at the number below, if any issues remain.

Respectfully submitted,

/Lynda M. Fitzpatrick/

Lynda M. Fitzpatrick  
Reg. No. 60,901

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Michael Best & Friedrich LLP  
100 E. Wisconsin Avenue, Suite 3300  
Milwaukee, WI 53202-4108  
Tel: 414-271-6560

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